

Appl. No.: 10/613,800
Amdt. Dated: June 9, 2005
Off. Act. Dated: January 11, 2005

AMENDMENTS TO THE CLAIMS:

A detailed listing of all claims that are, or were, in the application follows:

1. (currently amended): An abrasion resistant material for use in protective clothing, comprising:

(a) — a plurality of beads having ~~round~~ rounded exteriors; and

(b) — a matrix of cords interconnecting said plurality of beads in a two dimensional pattern toward providing high abrasion resistance.

2. (currently amended): An abrasion resistant material as recited in claim 1, wherein said ~~attachment~~ interconnection of said beads occurs substantially through the center of each of said beads.

3. (original): An abrasion resistant material as recited in claim 1, wherein the exterior of the bead comprises UHMW polyethylene.

4. (currently amended): A garment material for use within abrasion resistant clothing, comprising:

a plurality of beads of an abrasion resistant material having rounded exteriors;
and

a matrix of cords interconnecting said beads and configured for retaining said beads in a fixed two-dimensional pattern ~~as a material from which abrasion resistant clothing may be fabricated.~~

5. (original): A garment material as recited in claim 4, wherein said matrix of cords comprise material of sufficiently high tensile strength to prevent said beads from disconnecting from said matrix of cords in response to sliding contact with a roadway surface.

Appl. No.: 10/613,800
Amdt. Dated: June 9, 2005
Off. Act. Dated: January 11, 2005

6. (original): A garment material as recited in claim 4, wherein said matrix of cords are attached to said plurality of beads through a material portion of each of said beads.

7. (original): A garment material as recited in claim 4, wherein at least the exterior portions of said beads comprise an abrasion resistant material having a coefficient of friction sufficiently low as to reduce inducing rotational torque forces on a wearer of said garment in response to sliding contact with a roadway surface that can lead to additional tumbling injuries.

8. (original): A garment material as recited in claim 4, further comprising compliant material inserts retained where said cord enters the material of said bead.

9. (new): An abrasion resistant material as recited in claim 1, wherein at least a portion of the cords within said matrix of cords pass through said beads.

10. (new): An abrasion resistant material as recited in claim 1, wherein cords within said matrix of cords are configured with sufficient elasticity whereby the portion of the garment which includes said abrasion resistant material is securely retained.

11. (new): An abrasion resistant material as recited in claim 1, wherein cords within said matrix of cords are configured with a tensile strength in the range of from approximately 25 - 250 pounds.

12. (new): An abrasion resistant material as recited in claim 1, wherein said plurality of beads comprises beads of different sizes.

Appl. No.: 10/613,800
Amdt. Dated: June 9, 2005
Off. Act. Dated: January 11, 2005

13. (new): An abrasion resistant material as recited in claim 1, wherein beads of said plurality of beads comprising injection molded plastic are attached to said matrix of cords in a molding process.

14. (new): An abrasion resistant material as recited in claim 1, wherein said plurality of beads comprises:

a first material on the exterior portions of said beads; and
a second material configured for receiving a cord within said matrix of cords.

15. (new): An abrasion resistant material as recited in claim 14, wherein said second material comprises a sufficiently compliant material to distribute the forces between said cord and the first material of said bead.

16. (new): An abrasion resistant material as recited in claim 1, wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:1.5 to 1:8.

17. (new): An abrasion resistant material as recited in claim 1, wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:2 to 1:4.

18. (new): An abrasion resistant material as recited in claim 1, wherein said material is adapted for inclusion within abrasion protection garments.

19. (new): An abrasion resistant material as recited in claim 1, wherein said interconnecting matrix is attached to a cloth layer.

Appl. No.: 10/613,800
Amdt. Dated: June 9, 2005
Off. Act. Dated: January 11, 2005

20. (new): An abrasion resistant material adapted for inclusion within abrasion protection garments, comprising:

a plurality of beads, of one or more sizes, having rounded exteriors and formed from one or more abrasion resistant materials in a solid, hollow, or filled configuration;

a matrix interconnecting said plurality of beads in a two dimensional pattern; and

wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:1.5 to 1:8.